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ABSTRACT

Basic theoretical assumptions support the contention that writing has an important role to play in the teaching of reading and learning processes. E. M. Forster focused on the product of writing as an embodiment of either finished or evolving thought, and Ann E. Berthoff emphasizes the capacity of language to generate itself and, in so doing, spawn additional thought. The term "epistemic" was coined by Kenneth Dowst to describe an approach to teaching writing that makes language the lens through which humans know the world and construct a reality from that knowledge. Lev Vygotsky similarly emphasized the symbiotic relation between the process and product of verbal composing, and Jacques Derrida and other deconstructionists go even further in privileging language in the creation of thought and knowledge. Recent investigations by R. J. Teirney and P. D. Pearson argue that reading and writing are "acts of composing" that share five cognitive and metacognitive subprocesses that are recursive and overlapping: planning, drafting, aligning, revising, and monitoring. Finally, a growing number of studies strongly support the contention that analytic writing can provide an effective means of deepening students' engagement with written study material and of improving students' long-term memories of such material. These studies (especially those dealing with the PORPE--Predict, Organize, Rehearse, Practice, and Evaluate--strategy and its predecessors) illustrate how directed practice in writing develops and reinforces subprocesses in a more intensive and conscious manner than reading alone can. (Twenty references are attached.) (KEH)

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Using Writing to Promote Reading to Learn in College

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The underlying premise of this presentation is that language creates reality; or, at the least, language (writing in particular) creates understanding, an ordered way of naming, classifying, and relating sensory impressions and abstract thoughts. It is writing's role in ordering and making understandable—actually ***creating, calling into being****—abstract thought that I want to explore.*

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USING WRITING TO PROMOTE READING TO LEARN IN COLLEGE

In a recently-published textbook, David Bartholomae and Anthony Petrosky (1990) assert, "There is no better place to work on reading than in a writing course" (p. iii). For some, such an assertion may seem rather arrogant, coming as it does from writing teachers; for others, it seems merely axiomatic, a truism rooted in common sense. But in their years of teaching and research with Basic Writers at the University of Pittsburgh, Bartholomae and Petrosky have relied on more than just common sense in coming to their conclusion on the importance of writing in the development of reading habits. Judith Langer and Arthur Applebee (1987) have also reported research supporting the felicitous relation between writing and reading: "Across the studies [reported in *How Writing Shapes Thinking*], there is clear evidence that activities involving writing (*any* of the many sorts of writing we studied) lead to better learning than activities involving reading and studying only. Writing assists learning" (p. 135).

Too often, however, department heads, school systems, governors, legislatures, and Education Czars want quick solutions to complex, developmental problems. And they want measurable, verifiable solutions, quantifiable evidence to prove that students can answer questions about what they have read and supposedly learned. Department heads and Education Czars can't wait for longitudinal studies and can't afford the cost of examining students' learning by methods broader in scope and more varied in measurement than the cost-effective, computer-scored, multiple-choice standardized test. (If you teach in Georgia, you certainly know what I mean.)

And yet those of us who teach developmental writing or reading on the college level also realize that the mental processes that accompany higher-level thinking cannot be accurately or fully measured by single tests or by atomistic measures such as multiple-choice assessments. If we truly want to develop in our students the ability and desire to carry on a conversation with the best that humankind has thought and said through the ages, then we must exploit the fullest uses of language and patiently tolerate the natural and uneven pace of educational development in students. Teaching reading—or teaching learning styles—with the aid of writing takes time, but it is time well spent, even if we cannot now convince our State Boards of Education of that truth.

What I propose to do for the next 25 minutes is explain some of the basic theoretical assumptions underlying the contention that writing has an important role to play in the teaching of reading and learning processes.

Theory

E. M. Forster

Forster, the noted British novelist, is obviously not a language theorist in the scientific sense, but his oft-quoted question is perhaps the simplest (and best-known) assertion of the epistemological function of written language: "How do I know what I think until I see what I say?" (quoted in Mayher, Lester, & Pradl, 1983, p. 36). This question suggests at least two ways that language contributes to understanding.

Most obviously, Forster's question focuses on the product of writing (i.e., the text) as an embodiment of either finished or evolving thought. The written text allows both reader and writer to examine thoughts captured in time and recorded in words, thereby encouraging more complex thinking because constraints imposed by memory have been abolished by the written record.

More important for my purposes here, though, is that the very act of writing contributes to thinking in a direct and essential way. "How I know," "what I think," and "what I say" ***even in their grammatical syntax*** suggest the symbiotic relation between product ("what") and process ("know," "think," "say"), a relation mediated by consciousness ("I") through language ("How").

Thinking and verbally articulating are inextricably related.

Ann E. Berthoff

Berthoff also emphasizes the capacity of language to generate itself and in so doing spawn additional thought. (Advocates of freewriting, such as Peter Elbow or Ken Macrorie, would also agree with this emphasis on writing's ability to spin thought).

Berthoff aptly describes the meaning-making or epistemological nature of written language when she explains that "It is the *discursive* character of language, its tendency to 'run along,' to be syntactical, which brings thought along with it" (p. 70). Language both generates and, in its emphasis on syntax, enhances the organization of thought and the relationship between ideas.

As Berthoff (1981) is fond of reminding us, "man is the *animal symbolicum*, the symbol-making animal" (p. 36). As such, we humans possess the unique gift of language, which allows us to make sense of our environment and our responses to it. Any theory of knowledge construction, then, such as reading and

studying, must take into account the primary means we humans have of knowing, i.e., using language. And "writing," to quote Berthoff again, is "the chief means of making meanings" (p. 123). Please note the emphasis on writ***ing***, not on the written text that contains the writing or on the reading of that writing.

Kenneth Dowst

Dowst (1980) has coined the term "epistemic" to describe an approach to teaching writing that makes language the lens through which humans know the world and construct a reality from that knowledge. Dowst writes:

> I would see the activity of composing language as a means of imposing a useful order upon the "blooming, buzzing confusion" (as William James describes it) of one's various and perhaps conflicting sense-impressions—and, at a higher level of cognition, upon one's experiences, thoughts, and bits of factual knowledge. . . . Experimenting in composing with words is experimenting in composing understanding, in composing knowledge. A writer (or other language-user), in a sense, composes the world in which he or she lives. (pp. 65-66)

In Dowst's theory of knowing, then, we compose knowledge as we express it in language.

This theory is central to my emphasis on the role of writing in reading and learning, for encoding words from the printed page into memory (a common misconception of reading held by most students and some few reading teachers) will not suffice; to achieve understanding, the symbols on the page must also be processed—through the reader's own language and then expressed, or even revised, verbally either in conversation or in writing.

Lev Vygotsky

In Thought and Language (1962), Vygotsky explores the preeminent role that language plays in thinking and meaning-making. According to Vygotsky, language is not the same as thought, nor does language actually create thought. Rather, thought evokes meaning which, in turn, finds embodiment in words. Thought and meaning exist independently of language, but the mental search for "the word" brings thought and meaning to consciousness and thus makes thought and meaning malleable. This notion is similar to Britton's (1975) emphasis on the power of language to shape thought at the point of utterance.

Like Berthoff and Dowst, Vygotsky also emphasizes the symbiotic relation between the process and product of verbal composing. "The relation between thought and word," writes Vygotsky, "is a living process; thought is born

through words. A word devoid of thought is a dead thing, and a thought unembodied in words remains a shadow" (p. 153). Words uttered without reference to impelling thought carry no meaning, and thought unembodied in words at best remains a "felt sense" (Perl, 1980, p. 365), a vague sentience without form, empty of meaning. Language gives meaning form, which the mind shapes to its various purposes. Vygotsky concludes Thought and Language by placing the development of language firmly within the evolutionary development of human consciousness.

Jacques Derrida and Deconstruction

Derrida and other deconstructionists go even further in privileging language in the creation of thought and knowledge. As one of Derrida's critics puts it, "Consciousness does not precede, and give birth to, language; rather, it is language that makes consciousness possible. From where Derrida sits, it might be that signs themselves (or the process of signifying) preceded minds, rather than the other way around" (Crowley, 1989, p.4). Or as J. Hillis Miller echoes, humans do not merely think language; "[l]anguage rather thinks man and his 'world' . . ." (1977, p. 444). Instead of thinking of mind being secondary to language, instead of assuming that language has no creative powers of its own, instead of seeing language merely as a tool of the mind or as a container for thought, deconstruction theory contends that the ability to signify (i.e., to name and shape a reality) lies within the essential province of language. Perhaps "languaging" is a better term because it implies the ongoing creation and revision of meanings, an idea at the heart of deconstruction theories. To quote Crowley again, "In one sense, then, deconstruction amounts to reading texts in order to rewrite them" (p. 9). My point is simply this: What better way to rewrite texts than by guiding students to write about (i.e., reconstruct) what they read?

Reading and Writing: Parallel Activities

Recent investigations have demonstrated how reading and writing are parallel constructive activities. In each act, the language user constructs meaning through conscious, deliberate manipulation of the words in a text. The words themselves have no meaning until a reader constructs meaning from them (Petrosky, 1982). Tierney and Pearson (1983) argue that reading and writing are "acts of composing" (p. 568) that share five cognitive and metacognitive subprocesses: planning, drafting, aligning, revising, and monitoring. Although these subprocesses can be differentiated, in practice they are recursive and overlapping.

Planning involves setting goals to be attained and mobilizing appropriate prior knowledge schemata to meet those goals. In **drafting**, the reader or writer constructs an appropriate scene or schema from which the rest of the

text might develop. Semantic and structural expectations are established for making sense, for making text cohere, and for understanding the whole that the parts fit into. Establishing an **alignment** includes choosing an appropriate stance in an assumed collaboration with the author or audience and creating a role appropriate to the assumed stance and degree of collaboration. Stances and roles may shift as the reading or writing continues, ensuring that various parts of the text continue to cohere in meaningful and purposeful ways. Such adjustments occur during **revision**, when readers and writers reflect on their developing interpretations and reshape their models of text meaning. Revision stems from the ongoing metacognitive function of **monitoring**. In monitoring, the reader or writer coordinates the other stages of meaning-making, directing the order in which the other activities occur and recur.

My contention is that directed practice in writing will develop and reinforce these subprocesses in a more intensive and conscious manner than reading alone can. The overt, conscious activities of planning, drafting, aligning, revising, and monitoring that writing demands will, I believe, carry over into the reading process eventually, as readers come to read like writers. Sandra Stotsky's (1983) review of reading/writing studies substantiates such a claim. Her review of the literature reports significant relationships between reading comprehension and reading experience on the one hand and writing achievement on the other. And in an experimental reading/writing course for basic readers I reported on a few years ago (Hayes, 1987), I found that "integrating expressive and analytical writing into reading instruction can lead to statistically significant and substantial gains in both reading and writing" (p. 107), in some cases up to three-year gains in reading comprehension in three months.

Selected Studies Investigating the influence of Writing on Reading Comprehension and Studying

A growing number of studies strongly support the contention that analytic writing can provide an effective means of deepening students' engagement with written study material and of improving students' long-term memory of such material.

Langer and Applebee (1987) assert that any kind of writing assists learning to a degree, but the kind of writing also affects the kind and quality of learning achieved. Studying course content by taking notes or by answering short-answer study questions leads students to focus attention on specific pieces of information and to remember them very well for the short term. But this limited use of writing also leads to limited engagement with the material. Analytic writing, however, encourages more thoughtful attention to a smaller amount of information; that is, students may consider fewer ideas, but they understand and link ideas in more cognitively complex ways and remember

them over a longer time. By manipulating information in more complex ways—i.e., through extended analytic writing—students better understand and remember that information over time.

In another study of analytic writing and learning, Marshall (1987) investigated the roles that restricted writing tasks and extensive writing tasks played in secondary students' understanding of short stories. On both initial and delayed written tests, students who had initially responded to the short stories in extended writing formats scored significantly higher on measures of descriptive elaboration, interpretation, and generalization than did students who had initially responded to the stories in restricted writing formats.

In a more recent study, however, Penrose (1989) found that on tests of simple recall and application of reading material to novel situations, students' own study methods can result in higher test scores than can writing an essay as a means of studying. Writing, she concludes, may be better suited for "critically examining information than for gathering it" (p. 15). Penrose wisely cautions that "When we advocate writing as a way to learn in all disciplines, we need to think about the support skills that students may need to master in order to use writing effectively in this capacity" (p. 11).

The PORPE Strategy

The PORPE strategy (Simpson, 1986) attempts to develop both support skills and metacognitive skills students need in order to employ writing as a means of learning and studying for either objective tests or essay tests. PORPE is an acronym for *P*redict, *O*rganize, *R*ehearse, *P*ractice, and *E*valuate. These five steps are synergistic, building each upon the other as they engage students in learning content material. Students, however, need to be guided through the procedure.

With the first step, *P*redict, students generate higher-level essay questions that cover the content to be mastered and that call for organized essay responses. By predicting such questions, students clarify the purposes of their subsequent study as they also begin to process the studied text in a more active or elaborative manner. In the second step, *O*rganize, students begin marshalling and arranging information that will answer their self-predicted essay questions. As they construct maps or outlines, students form a coherent structure of the text under study. The third step, *R*ehearse, engages students in the active recitation and self-testing of the key ideas recorded in their maps or outlines. Students answer their predicted essay questions, transferring key ideas into working memory. The fourth step, *P*ractice, leads students to validate their learning in a public and observable form—i.e., by writing from recall the answers to their self-predicted essay questions. This writing guides students to higher levels of thinking and reasoning, such as analysis and synthesis. The final step, *E*valuate, serves a

monitoring function. Students follow a checklist that guides them in determining the completeness, accuracy, and appropriateness of their written product in terms of the original task, the self-predicted essay. Again, it is important to point out that the classroom teacher leads students through all stages, one or more times, by modeling the process and by structuring classroom activities (either one-on-one or collaborative instruction) to monitor and aid students in their first uses of the strategy.

Two different studies have demonstrated the power of the PORPE strategy. In one study (Simpson, Hayes, Stahl, Conner, & Weaver, 1988) PORPE was shown to be superior to a teacher-directed question-answer study format in leading at-risk college students to score higher on both initial and delayed multiple-choice tests and initial and delayed essay tests. In a second study (Simpson, Stahl, & Hayes, 1989) with a similar population of students, PORPE proved superior to a student-directed strategy that had students generate, answer, and evaluate their own predicted short-answer test questions, though in this case the PORPE strategy resulted in less dramatically higher scores than in the first study. The following conclusions can be drawn from the PORPE studies:

1. PORPE elicits deeper and more extensive elaborative processing from students as they think and write about content material than do teacher-directed or limited-writing study activities.
2. PORPE leads students to create tighter networks of information than does simply answering a teacher's or textbook's questions.
3. PORPE leads students to see and create memorable connections between superordinate and subordinate ideas and details.
4. Because of these benefits, PORPE leads students to remember information longer and to remember it in a purposeful and coherent "chunk" of meaning.
5. Although answering a teacher's ready-made questions or constructing one's own questions can contribute to short-term memory of information, that kind of disconnected study (in which pieces of information aren't necessarily placed within a ***context***) does not contribute to the fullest, longest, or most coherent kind of learning.

(For a fuller description of PORPE, see Simpson [1986] and Simpson, Hayes, Stahl, Conner, & Weaver [1988] in the References.)

Beyond Alphabet Soup Strategies

A number of other acronymous strategies for eliciting prior knowledge, improving reading, and teaching study strategies preceded PORPE. Judging from the acronyms, such strategies range from the playful and seemingly refreshing (PLaE, PUNS, PASS, SIPS) to the torturous and violent (RIPS, RAM) to the formulaic and scientific (PQ4R, SQ3R, DNA) to the mundane (NAIT, PReP, POARE). Admittedly, these (and other) strategies serve useful functions. They

introduce learners to mental exercises and operations that were previously either unknown or unconscious. They can serve as heuristic models for holistic, creative, and adaptive thinking and learning. Too often, though, they do not. Too often they artificially atomize thinking or learning into discrete, observable steps that students do not integrate into a more holistic, contextual, constructive vision.

I'm not advocating that teachers of reading and other academic survival skills reject such strategies. But I am suggesting that we need not fear asking students to write, even when we cannot locate that writing in a pre-packaged strategy with a cute acronym or see a curriculum objective immediately fulfilled by that writing. Where and how do we have them write? Anywhere, in any manner.

We can have them keep journals in which they respond personally and expressively to their reading and lives. (Our lives, after all, compose a text, too.) We can have them keep journals in their math, science, lab, or all classes. We can have them write at the beginning, the middle, the end of class. We can have them take notes, annotate passages, keep double-entry notebooks (Berthoff, 1981) in which they comment on their notes and think about thinking; or we can teach them to use Directed Notetaking Activities. We can ask them to freewrite before, during, and after reading our lectures. And we shouldn't fear asking them to attempt academic kinds of writing—summaries, reports, position papers, analyses, arguments. We should encourage them to imitate the voices they read as we also encourage and assign them to read a range of academic and popular pieces.

But we also have to read their writing, become voices talking back to their voices, just as we talk back to the voices we read in books. That is the real crux of the reading/writing connection, the essence of reading like a writer. As Bartholomae reminds us, "Every time a student sits down to write for us, he has to invent the university for the occasion—invent the university, that is, or a branch of it . . ." (p. 4). And every time a student sits down to read, she should invent a community of writers, readers, and learners in which she shares responsibility for examining, constructing, and revising knowledge. It is through such attempts at invention and imitation of academic thought that students best learn to adjust and adapt their constructions of reality.

Reading or studying isn't enough. Writing about reading transforms the words of The Other on the page into the thoughts and words of The Active Learner. Only when the words of others are translated and transformed through the thoughts, words, and syntax of the individual mind do those first words become truly original thoughts. From a transactional or deconstructionist perspective, texts don't so much exist as they are created and recreated every time a mind interacts with them. Only in new words can texts be recreated. And writ***ing*** (process) is the best way to reconstruct writing (product).

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